# Scientific Council Dinner

Presenting the Klerman & Freedman Awards

Friday, July 28, 2023



Awarding NARSAD Grants

Welcome to the Scientific Council Dinner where we will present the 2023 Klerman & Freedman Awards.

The Klerman & Freedman Prizes recognize exceptional clinical and basic research conducted by Brain & Behavior Research Foundation Young Investigator Grantees. The prizewinners are selected by committees of the Foundation's Scientific Council, led by its founding President, Dr. Herbert Pardes.

The BBRF Scientific Council reviews and selects the most promising research ideas with the greatest potential to lead to further breakthroughs in brain and behavior research. We thank our Council for their time, expertise, and judgement to support the mission of the Foundation.

Tonight, we will recognize and honor the exceptional work of five outstanding young researchers. BBRF's Young Investigator Grant program supports early-career scientists as they gather pilot data and "proof of concept" for their innovative clinical and basic research.

Following our dinner, we will engage in an exciting discussion on the state of research and psychiatry with select members of our Scientific Council.

The Brain & Behavior Research Foundation continues to support the most promising ideas in brain research across disciplines, institutions, and continents. We hope that as you learn about the achievements of this evening's honorees, they will inspire your continued support of BBRF's vision of a future in which all people living with a psychiatric condition lead full, productive, and happy lives.



Sincerely,

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**Jeffrey Borenstein, M.D.** President & CEO

### ANNUAL KLERMAN PRIZE FOR EXCEPTIONAL CLINICAL RESEARCH

# Danella M. Hafeman, M.D., Ph.D.

University of Pittsburgh School of Medicine

#### HONORABLE MENTION

**Linden Parkes, Ph.D.** *Rutgers University & University of Pennsylvania* 

# ANNUAL FREEDMAN PRIZE FOR EXCEPTIONAL BASIC RESEARCH

# Ritchie Chen, Ph.D.

University of California, San Francisco

#### HONORABLE MENTIONS

### Madeline Andrews, Ph.D.

Arizona State University

### Neir Eshel, M.D., Ph.D.

Stanford University

#### **About the Prizes**

The Klerman & Freedman Prizes pay tribute to Drs. Gerald L. Klerman and Daniel X. Freedman, whose legacies as researchers, teachers, physicians and administrators have indelibly influenced neuropsychiatry. Their outstanding contributions to the field of brain and behavior research continue to inspire scientists who knew them, as well as those who are just entering the field.

#### KLERMAN Prizewinners

1995	Dr. Rajiv Tandon
1996	Dr. Hans C. Brieter
1997	Dr. Schahram Akbarian
1998	Dr. Michael Maes
1999	Dr. Andrew L. Stoll
2000	Dr. Susan K. Schultz
2001	Dr. Cameron S. Carter Dr. Josephy R. Hibbeln Dr. Sarah H. Lisanby Dr. Perry F. Renshaw
2002	Dr. E. Sherwood Brown Dr. John W. Newcomer
2003	Dr. Ramin Mojtabai
2004	Dr. Helen Link Egger Dr. Joan L. Luby
2005	Dr. Melissa P. DelBello
2006	Dr. Hilary P. Blumberg
2007	Dr. Beng-Choon Ho
2008	Dr. Gabriel Alejandro de Erausquin
2009	Dr. Alina Suris
2010	Dr. Daniel P. Dickstein Dr. Mani N. Pavuluri
2011	Dr. Chadi Calarge
2012	Dr. Jess G. Fiedorowicz
2013	Dr. James McPartland
2014	Dr. Denis Jabaudon
2015	Dr. Alan Anticevic
2016	Dr Katie McLaughlin
2017	Dr. Jennifer C. Felger
2018	Dr. Albert R. Powers III
2019	Dr. Nolan R. Williams
2020	Dr. Ellen Lee
2021	Dr. Nicholas L. Balderston
2022	Dr. Shan H. Siddiqi

#### KLERMAN Honorable Mentions

1995	Dr. Elizabeth D. Abercrombie Dr. Kim T. Mueser Dr. Jose V. Pardo
1996	Dr. Steven E. Arnold Dr. Helen S. Mayberg
1997	Dr. Andrew J. Francis Dr. Katharine A. Phillips
1998	Dr. Cameron S. Carter Dr. Mark R. Serper
1999	Dr. Shitij Kapur Dr. Brian F. O'Donnell
2000	Dr. Mark S. George Dr. Sohee Park
2002	Dr. Stephan Heckers Dr. Anissa Abi Dargham Dr. Jeffrey H. Meyer Dr. Yvette I. Sheline
2003	Dr. Catherine Monk Dr. Gerard Sanacora
2005	Dr. Anne L. Glowinski Dr. Gerard Sanacora
2006	Dr. Stephan Eliez Dr. Jordan W. Smoller
2007	Dr. Yuval Y. Neria Dr. Carolyn M. Salafia
2011	Dr. Brian M. D'Onofrio Dr. Jennifer S. Silk
2012	Dr. Johanne Renaud Dr. Manpreet Kaur Singh
2013	Dr. Daniel Mueller Dr. Andrea Danese
2014	Dr. Mazen A. Kheirbek Dr. Bo Li
2015	Dr. Chadi Abdallah Dr. Carrie J. McAdams
2016	Dr. Erin C. Dunn Dr. Avram Holmes
2017	Dr. Danai Dima Dr. Carolyn Rodriguez
2018	Dr. Timothy Y. Mariano
2019	Dr. Bo Cao Dr. Sarah A. O. Gray
2020	Dr. Soonjo Hwang Dr. Hadar Ben-Yoav
2021	Dr. Hengyi Cao Dr. Nolan R. Williams
2022	Dr. Rachel Emma Lean Dr. Sunny Xiaojing Tang

# **KLERMAN PRIZE**

The Klerman Prize, established in 1994 by Myrna M. Weissman, Ph.D., in memory of her late husband, Gerald L. Klerman, M.D., honors exceptional clinical research by a BBRF Young Investigator Grantee. A distinguished psychiatric researcher and mentor at the National Institute of Mental Health (NIMH), Dr. Klerman pioneered studies of psychotropic medications and developed and tested interpersonal psychotherapy. Dr. Weissman serves on the BBRF Scientific Council.

#### **KLERMAN PRIZE SELECTION COMMITTEE**

Responsible for selecting the Klerman Prizewinners, the following BBRF Scientific Council members make up the Selection Committee:

#### CHAIR

#### Karen Dineen Wagner, M.D., Ph.D. University of Texas Medical Branch

in Galveston

#### **MEMBERS**

Martin B. Keller, M.D. Brown University

Nina R. Schooler, Ph.D. State University of New York, Downstate Medical Center

# **2023 KLERMAN PRIZEWINNER** FOR EXCEPTIONAL CLINICAL RESEARCH



#### Danella M. Hafeman, M.D., Ph.D.

University of Pittsburgh School of Medicine

2019 BBRF Young Investigator

Dr. Hafeman's research focuses on youth diagnosed with or who are at risk for bipolar disorder. She is interested in understanding clinical and neural mechanisms of risk and resilience in these youth, with the goal of preventing progression of mood disorders in this vulnerable population. Much of her recent work has focused on predictors of bipolar disorder in youth at familial risk, working with BBRF Prizewinner Dr. Boris Birmaher. In two papers describing predictors of bipolar disorder in youth at familial risk for bipolar disorder, they described dimensional predictors (e.g., anxiety/depression, mood lability, and subthreshold manic symptomatology) of disorder in school-age and preschool youth. These prospective analyses have important clinical and research implications, describing a group of youth at ultra-high risk for the development of bipolar disorder. Dr. Hafeman hopes to use these data to construct a risk calculator for the development of bipolar disorder in at-risk youth, facilitating clinically relevant prediction at the individual level. She also aims to assess relationships between polygenic risk score and bipolar disorder onset in these at-risk youth.

"Winning the Klerman Prize is a tremendous honor, and I am humbled to receive this prestigious award amongst an amazingly talented pool. I am also deeply grateful to BBRF for the support to take a risk on an innovative idea, as well as the opportunity for this recognition—it is incredibly meaningful at this point in my career."

# **2023 KLERMAN PRIZE** HONORABLE MENTION



#### Linden Parkes, Ph.D.

Rutgers University & University of Pennsylvania

2020 BBRF Young Investigator

Dr. Parkes is a computational neuroscientist who seeks to uncover pathways that track the emergence of psychopathology. He approaches this goal from a neurobiological perspective by studying how complex neural systems shape behavior and cognition, and how dysfunction in these systems predicts psychopathology. His research addresses specific questions relevant to this intersection of psychiatry and brain sciences: How do we improve the predictive models that link brain structure, function, and disease? How do we tease apart the brain markers that are specific to certain axes of psychiatric disorders from those that are general across disorders? How do we integrate our understanding of psychopathology with underlying neurodevelopmental processes to understand the root causes of mental illness? Dr. Parkes addresses these and related questions through the analysis of cross-sectional and longitudinal neuroimaging data that is probed with computational network analysis and predictive machine learning. His ultimate goal is to develop a set of robust, reliable, and predictive biomarkers that can be used in clinical trials to assess treatment stratification and response.

"I'm incredibly grateful to have received an honorable mention for the Klerman Prize. It is a privilege to be mentioned amongst my peers for this award, and I am grateful for all the support that BBRF has provided me."

#### FREEDMAN Prizewinners

1998	Dr. Yukiko Goto
1999	Dr. Stewart A. Anderson
2000	Dr. Edwin G. Abel
2001	Dr. Kelsey C. Martin
2002	Dr. Jon R. Backstrom
2003	Dr. Jose A. Esteban
2004	Dr. Luca Santarelli
2005	Dr. Lisa M. Monteggia
2006	Dr. Michael D. Ehlers
2007	Dr. Thomas A. Blanpied
2008	Dr. Evelyn K. Lambe
2009	Dr. Kerry J. Ressler
2010	Dr. David A. Baker
2011	Dr. Alexandre Bonnin
2012	Dr. Zhiping Pang
2013	Dr. Garret Stuber
2014	Dr. Theodore D. Satterthwaite
2015	Dr. Michael M. Halassa
2016	Dr. Kay Tye
2017	Dr. Ilana Witten
2018	Dr. Byungkook Lim
2019	Dr. Anna Victoria Molofsky
2020	Dr. Cody A. Siciliano
2021	Dr. Meaghan Creed
2022	Dr. Antonio Fernandez-Ruiz

#### FREEDMAN Honorable Mentions

1998	Dr. Eric E. Turner Dr. Elizabeth Van Bockstaele
1999	Dr. Emmanuel N. Pothos Dr. Laurence H. Tecott
2000	Dr. Wayne Drevets Dr. Bernice E. Morrow
2001	Dr. Michael J. Caterina Dr. Aurelio A. Galli
2002	Dr. Michael W. Quick Dr. Fu-Ming Zhou
2003	Dr. William A. Carlezon Dr. Gleb P. Shumyatsky
2004	Dr. Michael D. Ehlers Dr. Sheena Ann Josselyn
2005	Dr. Steven A. Thomas Dr. Fang Liu
2006	Dr. Stewart A. Anderson Dr. Gabriella D' Arcangelo Dr. Karoly Mirnics
2007	Dr. Fang Liu Dr. Luca Santarelli
2008	Dr. M. Margarita Behrens Dr. Akira Sawa
2009	Dr. Jean-Martin Beaulieu Dr. Colleen Ann McClung
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2015	Dr. Kristen J. Brennand Dr. Nandakumar Narayanan
2016	Dr. Conor Liston Dr. Margaret Cho
2017	Dr. Marcelo de Oliveiera Dietrich Dr. Elise B. Robinson
2018	Dr. Christina Gremel Dr. Ueli Rutishauser
2019	Dr. Erin S. Calipari Dr. Dorothy Schafer
2020	Dr. Kevin Beier Dr. Lorna A. Farrelly
2021	Dr. Denise Cai Dr. Tomasz J. Nowakowski
2022	Dr. Chandramouli Chandrasekara

2022 Dr. Chandramouli Chandrasekaran Dr. Mohsen Jamali

# FREEDMAN PRIZE

The Freedman Prize honors the late Daniel X. Freedman, M.D., a pioneer in biological psychiatry and psychopharmacology and a founding member of the Brain & Behavior Research Foundation Scientific Council. It is awarded to a BBRF Young Investigator Grantee for exceptional basic research.

#### FREEDMAN PRIZE SELECTION COMMITTEE

Responsible for selecting the Freedman Prizewinners, the following BBRF Scientific Council members make up the Selection Committee:

#### CHAIR

Ariel Y. Deutch, Ph.D. Vanderbilt University

#### MEMBERS

Joseph T. Coyle, M.D. McLean Hospital Harvard Medical School

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**Peter W. Kalivas, Ph.D.** *Medical University of South Carolina* 

**Eric J. Nestler, M.D., Ph.D.** Icahn School of Medicine at Mount Sinai

Marina R. Picciotto, Ph.D. Yale University Yale School of Medicine

# **2023 FREEDMAN PRIZEWINNER** FOR EXCEPTIONAL BASIC RESEARCH



#### **Ritchie Chen, Ph.D.** University of California, San Francisco

2020 BBRF Young Investigator

Visceral sensations, such as heart palpitations, hunger pangs, and pain, profoundly shape our mental state and behavior. For example, irregular heart rhythms have been postulated to create the experience of fear while generalized anxiety and panic disorders are thought to be related to dysregulation of interoceptive monitoring by the brain. Physiological theories of emotion, proposed over a century ago, have suggested that these visceral sensations are crucial in creating an emotional experience. However, such a bottom-up construction of an emotional state has been impossible to causally investigate in a controlled and temporally precise manner. Dr. Chen is inventing technologies for modulating affective and social behaviors, opening up new possibilities for treating mental health disorders. He has developed a cutting-edge technology that can non-invasively control cells throughout the mammalian body, and which could revolutionize our understanding and treatment of neurological and psychiatric conditions. Specifically, he has identified the ultrasensitive and red-shifted Channelrhodopsin ChRmine for non-invasive optogenetic control of electroactive cells across the brain and body. This technology enables transcranial optogenetic control of neuromodulator centers in the mouse brain without the need for intracranial surgery. Using this non-invasive approach, he was able to target serotoninergic neurons in the raphe nucleus to enhance pro-social behavior in wild-type mice. He has since expanded this work to the heart, highlighting the key causal roles that bodily feedback can play in influencing emotional behavioral states.

"I am grateful for the Freedman Prize, an unexpected and important milestone in my career. This award will remind me of the power of engineering technologies in driving new approaches for basic neuroscience research."

# **2023 FREEDMAN PRIZE** HONORABLE MENTION



#### Madeline Andrews, Ph.D. Arizona State University

2020 BBRF Young Investigator

Dr. Andrews is a developmental neuroscientist who uses human cell cultures to explore the gene programs and cell signals that are essential for how brain cells grow, change shape, and become organized. Her research goal is to identify the molecular underpinnings of neurological disorders that impact human mental health. Toward this goal, she works to evaluate the neurodevelopmental mechanisms establishing cerebral cortex cell fate and organization, which are imperative for neurological function, and how these programs are disrupted in autism. She has performed studies interrogating dysfunction of the mTOR signaling pathway which occurs in co-morbid 'mTORopathies' including autism, Fragile X syndrome, and focal cortical dysplasia. mTOR is a protein complex that directs an intracellular signaling cascade to regulate dynamic cellular functions. The capacity to modulate mTOR during neurodevelopment also makes it a tractable, druggable target for therapeutics. Her research highlights the need for appropriate balance of mTOR signaling during human brain development where dysregulation in neuropsychiatric disorders impacts the fundamental shape, motility, and behavior of cells. Dr. Andrews' observations highlight unexpected, but essential, cell biological features that mTORopothies disrupt, including cell morphology, which has significant implications for cortical disorganization and alterations in connectivity.

"Receiving the Freedman Prize Honorable Mention is truly an honor. To have the support of such a fantastic philanthropic organization, whose goals align with mine, is extremely rewarding. I feel very grateful for my scientific research to be recognized in this way."

# **2023 FREEDMAN PRIZE** HONORABLE MENTION



#### Neir Eshel, M.D., Ph.D. Stanford University

2020 BBRF Young Investigator

Dr. Eshel's research focuses on the two neuromodulators that form the basis for most existing psychiatric treatments: dopamine and serotonin. By uncovering the functional diversity within these systems, he hopes his findings will lead to novel, more targeted treatments for symptoms such as irritability and aggression. The work could, for example, suggest ways to combine drugs that interact with specific dopamine and serotonin receptors. Dr. Eshel's findings may contribute to development of novel treatments that harness the molecular distinctions between target regions, e.g., by prompting prospective trials of serotonergic agents specific to forebrain vs. hindbrain projections, or by guiding clinicians who wish to combine serotonergic and dopaminergic agents for patients suffering from high levels of irritability and aggression. His studies may also inform the use of noninvasive brain stimulation techniques such as transcranial magnetic stimulation that are capable of targeting specific regions based on their functional connectivity to cortical stimulation sites.

"At a moment in my career when I am just starting to branch off from my mentors and build my own independent research group, this recognition is such a welcome surprise. It encourages me to keep following the science and taking risks!"

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As you plan your 2023 charitable donations, we hope you will help us successfully reach this generous \$1 Million Challenge Match. The cutting-edge mental health breakthroughs of BBRF grantees depend on you, so please consider making a gift this year to advance our vital research.

This match is made possible by two very generous family foundations that are passionate about BBRF's vital mission.



Awarding NARSAD Grants

**THE BRAIN & BEHAVIOR RESEARCH FOUNDATION** is committed to alleviating the suffering of mental illness by awarding grants that will lead to advances and breakthroughs in scientific research. The Foundation funds the most innovative ideas in neuroscience and psychiatry to better understand the causes and develop new ways to treat brain and behavior disorders.

Since 1987, the Foundation has awarded more than \$440 million to fund more than 5,300 leading scientists around the world. This has led to over \$4 billion in additional funding for these scientists. 100% of every dollar donated for research is invested in our research grants. Our operating expenses are covered by separate foundation grants.

# **RESEARCH FOR RECOVERY**





